The Examiner rejected claims 29, 32, 35, 38, 41, 44, 45, 48, 53, 56, 59 and 62 under 35 U.S.C. §102(e) as being anticipated by Kellogg. Independent claims 29, 32, 35, 38, 41, 45, 53, 56 and 59 each recite the generation of packets of pulses wherein each packet is separated by a pause period of no pulses. Kellogg does not disclose such a feature. As stated on column 11, lines 25-33 of Kellogg, the matching network 148 converts the pulses into a sine wave-like output signal. A sine wave clearly does not have packets of pulses separated by pause periods with no pulses.

Independent claims 35, 38, 41, 45, 56 and 59 also recite the creation of pulses so that the tip does not generate heat which denatures tissue. This is exactly the opposite of Kellogg which does create heat. Column 3, lines 24-33 of Kellogg state that the end effector creates heat sufficient to break protein hydrogen bonds and to denature collagen. This paragraph points out that proteins are denatured below 100°C. The applicant has enclosed an article discussing the burning or denaturing of tissue in a phacoemulsification procedure. As stated by William Fishbind, the collagen is denatured at 60°C or higher. Given this common knowledge, the applicant submits that Kellogg is merely describing a device that can create heat above 60°C and below 100°C. The stated goal of being below 100°C is to create a sticky coagulum to seal or coagulate small blood vessels. In any event, Kellogg clearly discusses and teaches to generate enough heat to denature tissue. This is exactly what the claimed invention is intending to avoid. For all of the above reasons the applicant submits that Kellogg does not anticipate claims 29, 32, 35, 38, 41, 44, 45, 48, 53, 56, 59 and 62.

The Examiner rejected claims 30, 31, 33, 34, 36, 37, 39, 40, 42, 43, 46, 47, 54, 55, 57, 58, 60 and 61 under 35 U.S.C. §103(a) as being unpatentable over Kellogg in view of

Cimino. The applicant submits that these claims are allowable for being dependent upon allowable independent claims.

In view of the above it is submitted that the claims are in condition for allowance. Reconsideration of the rejections is requested. Allowance of claims 1-12, 29-48 and 53-62 at an early date is solicited.

Respectfully submitted,
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Dated: May 12, 2003

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 12, 2003.

Wendy Jones 5/12/03
Date

APPENDIX

IN THE CLAIMS

Claims 1 and 6 have been amended as follows:

1. (Amended) A circuit that is coupled to a transducer that can drive a cutting element, wherein the transducer has a natural frequency and can operate in a resonant mode, comprising:

a control circuit adapted to provide a driving signal to the transducer, said driving signal including a plurality of pulses provided in a time duration that causes[does not induce] the transducer to operate in a non-resonant[the resonant] mode.

6. (Amended) A tissue cutting device, comprising:

a cutting element;

a transducer that moves said cutting element, said transducer having a natural frequency and can operate in a resonant mode;

a control circuit that provides a driving signal to said transducer, said driving signal including a plurality of pulses provided in a time duration that causes[does not induce] said transducer to operate in a non-resonant[the resonant] mode.